

RECEIVED
CENTRAL FAX CENTER

JUL 26 2006

Attorney Docket 10224-2-2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | |
|--------------|--|---|---------------|
| APPLICANT: | Joseph L. Arvin | } | Art Unit 3722 |
| SERIAL NO.: | 10/820,522 | } | |
| FILING DATE: | 04 Apr 2004 | } | |
| TITLE: | Apparatus and Method for Machining Workpieces | } | |

Oakbrook Terrace, Illinois
June 5, 2006

The Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

DECLARATION OF JOSEPH L. ARVIN

Joseph L. Arvin declares as follows:

1. I have been employed by Arrow Gear Company for 34 years and have served as its President for the last 19 years.
2. Arrow manufactures gears and specializes in the design and manufacture of complex, highly precise spiral and spiral beveled gears used in military and commercial aircraft, and space craft such as the Space Shuttle.
3. Such gears are customarily manufactured from solid blocks of steel cut by numerically controlled metal cutters. This manufacturing technique leaves behind burrs and other imperfections along the surface portions of the gears.
4. These burrs must be removed before the gear can be used and before such gears can be used. In addition, many of the surfaces of such gears must also be chamfered to allow the gears to mesh with other, similarly designed gears. These finishing operations must be done to highly precise tolerances.
5. In addition to complex gears, Arrow also manufactures parts such as shafts, couplings,

and machinecast gear housings.

6. The foregoing products also require deburring, chamfering and other finishing operations as well.

7. The prevalent manufacturing technique for deburring and chamfering the above-identified products is to have a worker use a hand-held grinder and manually follow the surfaces of such products that need to be treated. This procedure is inaccurate, dangerous to the operator and results in a rejection rate of about 20 percent for such parts.

8. Manual deburring and chamfering may also create divots that did not exist in the work piece and will also require the work piece to be scrapped.

9. Some of Arrow's customers manufacture virtually every part that goes into their products, but turn to Arrow to manufacture the gears and other precise products requiring not only precision manufacture but precision deburring, chamfering and machining as well.

10. I am unaware of any commercially available product that uses a robotically driven tool to precisely and automatically chamfer, deburr and finish such products.

11. To my best knowledge, to accomplish such operations by machine would require the use of an extremely expensive six-axis machine tool which would then have to be separately programmed to perform the finishing operations apart from the program that is required to produce the initial part.

12. To my best knowledge, there is no commercially available product that can use the data set required to initially manufacture a part and adapt that data set to successfully operate a computer-driven machine tool to perform the deburring, chamfering and other machining operations described with the precision required for such parts.

13. The undersigned, being hereby warned that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and that such willful false statements may jeopardize the validity of the application or any resulting patent,

07/26/2006 15:33 6306272145

JUL-26-2006 16:36

6309697699

PATNAUDE & VIDEBECK

6309697699

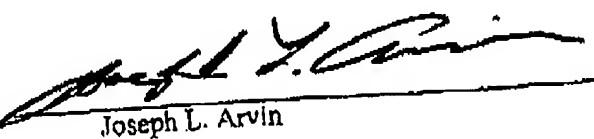
PAGE 25/25
P.03/03

declares that the facts set forth in this declaration are true; all statements made of his/her own knowledge are true; and all statements made on information and belief are believed to be true.

14. Further Declarant Sayeth Not.

Dated:

July 26th 2006


Joseph L. Arvin

-3-

TOTAL P.03